

SHAW HOUSE FARM, WHALLEY
DOG EXERCISE Paddock
NOISE IMPACT ASSESSMENT

PREPARED FOR:
NICOLA HADGRAFT

REPORT REF: BA-25111-RP01-P03

REVISION: P03

DATE: 12/12/2025

PREPARED BY:

BENCHMARK ACOUSTICS LTD

STUDIO 35, HIGHERFORD MILL

BARROWFORD, LANCS

**SHAW HOUSE FARM, WHALLEY
NOISE IMPACT ASSESSMENT**

| | |
|----------------------|--------------------------------|
| REPORT REF: | BA-25111-RP01-P03 |
| | |
| PROJECT: | SHAW HOUSE FARM, WHALLEY |
| | DOG EXERCISE Paddock |
| | NOISE IMPACT ASSESSMENT |
| | |
| PREPARED FOR: | NICOLA HADGRAFT |
| | |
| | |
| | |
| PREPARED BY: | ALEX TAYLOR Bsc(Hons) MIOA |
| | PRINCIPAL ACOUSTICS CONSULTANT |
| | BENCHMARK ACOUSTICS LTD |
| | |
| ISSUED ON: | 12/12/2025 |

DOCUMENT REVISION HISTORY

| REVISION | COMMENTS | AUTHOR | ISSUED |
|-----------------|----------------------------------|---------------|---------------|
| P01 | DRAFT initial issue | AT | 10/12/2025 |
| P02 | Issued for planning application | AT | 11/12/2025 |
| P03 | Updated for planning application | AT | 12/12/2025 |
| | | | |
| | | | |
| | | | |

TABLE OF CONTENTS

1.0 EXECUTIVE SUMMARY 1

2.0 SCHEME PROPOSALS..... 2

3.0 RELEVANT STANDARDS & GUIDANCE 4

3.1 SHDC SPG, LOCATION OF PREMISES FOR THE BOARDING AND BREEDING OF DOGS AND OTHER ANIMALS - NOISE ISSUES..... 4

3.2 BS 4142:2014+A1:2019 METHODS FOR RATING AND ASSESSING INDUSTRIAL AND COMMERCIAL SOUND 4

3.3 BS8233:2014 ‘GUIDANCE ON SOUND INSULATION AND NOISE REDUCTION FOR BUILDINGS’ 5

3.4 ISO 9613-2:2024 ‘ENGINEERING METHOD FOR THE PREDICTION OF SOUND PRESSURE LEVELS OUTDOORS’ 6

3.5 LPA CONSULTATION 6

3.6 PROPOSED ASSESSMENT CRITERIA 7

4.0 NOISE SENSITIVE RECEPTORS..... 9

5.0 SOUND LEVEL MEASUREMENTS11

5.1 PROJECT SITE DESCRIPTION..... 11

5.2 EQUIPMENT / INSTRUMENTATION..... 11

5.3 WEATHER CONDITIONS 12

5.4 METHODOLOGY 12

5.5 MEASUREMENT POSITIONS..... 12

5.6 MEASURED NOISE LEVELS 16

5.7 BACKGROUND NOISE LEVELS 18

6.0 3D NOISE MODELLING 19

6.1 SOURCE NOISE LEVELS 19

6.2 MODELLING ASSUMPTIONS 19

6.3 MODELLING RESULTS..... 20

7.0 NOISE ASSESSMENT..... 21

7.1 TRANSPORT NOISE 21

7.2 SHDC SPG ASSESSMENT 21

BENCHMARK

ACOUSTICS

| | | |
|------------|---|-----------|
| 7.3 | EXTERNAL NOISE LEVELS IN AMENITY SPACES | 21 |
| 7.4 | INTERNAL NOISE LEVELS IN DWELLINGS..... | 22 |
| 7.5 | CONCLUSION | 23 |
| 8.0 | APPENDIX I: GLOSSARY OF TERMS | 24 |

1.0 EXECUTIVE SUMMARY

Benchmark Acoustics Ltd has been appointed by Nicola Hadgraft (*'the Client'*) to provide a noise assessment for a planning application for the retrospective change of use of land at Shaw House Farm, Whalley (*'the Project'*).

The Project proposals are to provide a dog exercise paddock for use by up to 30 dogs on an existing field at Shaw House Farm.

This report has been produced to assess the potential impact from dog barking noise associated with the Project.

Suitable noise assessment methodology and criteria developed by South Holland District Council (SHDC) to assess dog barking noise from kennels has been used to assess the noise levels from the dog exercise paddock.

Background sound levels have been measured around the site at representative locations of the closest noise sensitive receptors, and dog barking noise levels associated with the proposed dog exercise paddock have been calculated using 3D computer noise modelling to inform the noise assessment.

The results of the noise assessment demonstrate that:

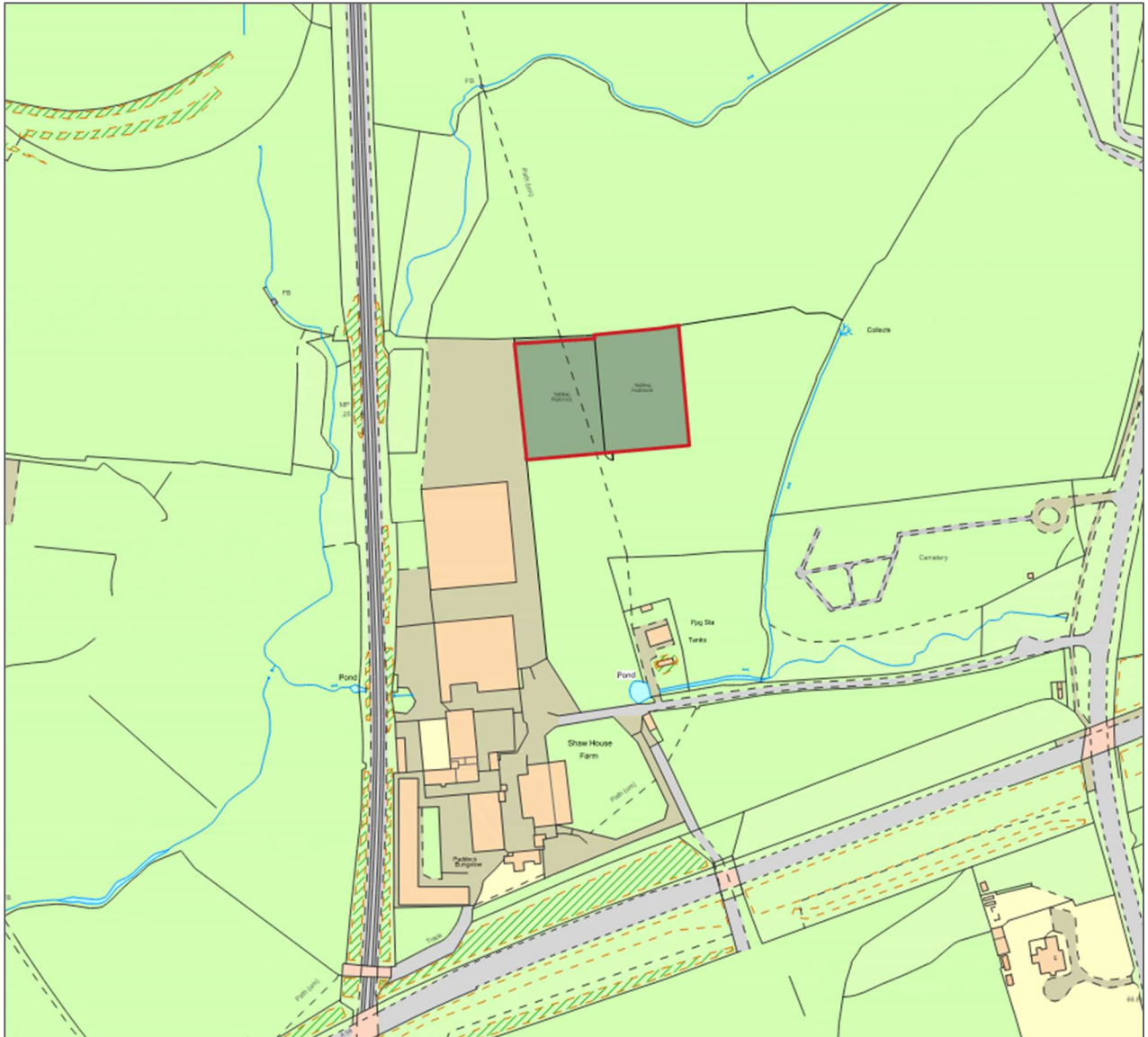
- Dog barking noise from the proposed dog exercise paddock is expected to achieve the proposed SHDC SPG assessment criteria that the specific noise level (i.e. dog barking noise) $L_{Aeq,1hr}$ does not exceed the background noise level $L_{A90,T}$ at the identified residential noise sensitive receptors.
- Dog barking noise from the proposed dog exercise paddock is expected to achieve the BS8233 recommended external noise limits in external amenity spaces at the assessed noise sensitive receptors.
- Dog barking noise from the proposed dog exercise paddock is expected to achieve the BS8233 recommended internal noise limits for daytime resting within dwellings at the assessed noise sensitive receptors.

Based on the above, it is considered that dog barking noise from the proposed dog exercise paddock would have a low impact on residential noise sensitive receptors, and noise should not be a determining factor in granting planning consent for the proposed development.

2.0 SCHEME PROPOSALS

The Project site is located on land at Shaw House Farm, Whalley, as shown in Figure 1, below.

Figure 1: Location plan



The planning application is for the retrospective change of use as the Project site is currently used as a dog exercise paddock. We understand that the Project proposals, as advised by the Client and described below, are no different than the existing/current use of the dog exercise paddock.

The Project proposals provide an enclosed paddock area of approximately 4,500 m² for dogs to exercise in whilst supervised by the Client's staff.

The proposed operating hours of the dog exercise paddock are 10:30 – 15:00 hrs, Monday – Saturday.

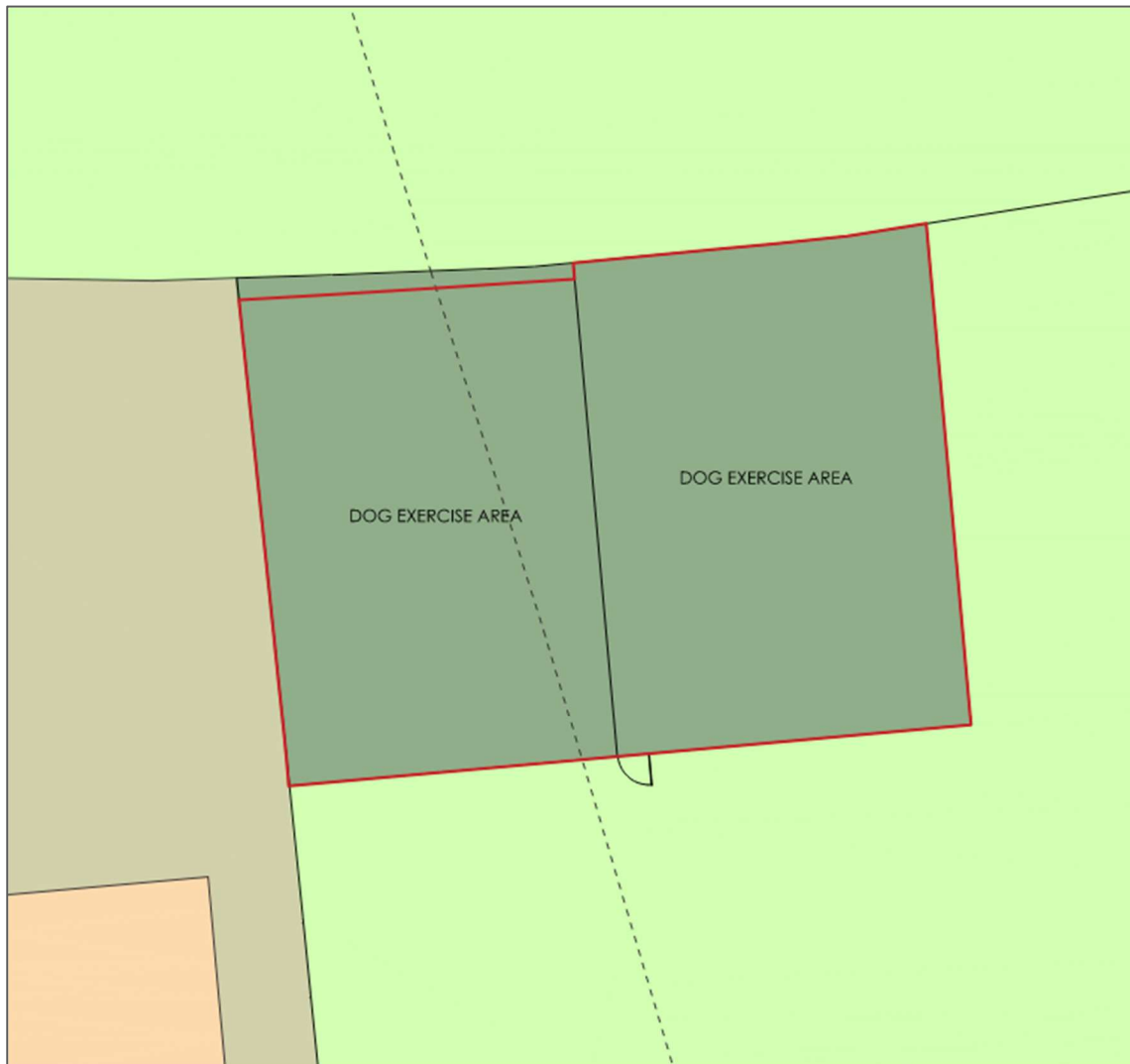
There will be a total of up to 30 dogs using the exercise paddock at any time during the week, with a reduced total of up to 10 dogs on Saturdays. The dogs will be collected from the dog owners' homes and transported to and from the exercise paddocks via the Client's vehicles which will access the site via the private farm track off Clitheroe Rd.

A total of 8 vehicle movements will be required per day to transport the dogs onto and away from the site over the course of the proposed weekday operating hours, reducing to 2 vehicle movements on Saturdays.

We understand that the Client has undertaken the dog exercise activities outlined above at the Project site since September 2024 and no complaints relating to noise from the existing activities have been received by either the Client or the landlord of the paddock.

The proposed site plan is shown in Figure 2, below.

Figure 2: Proposed site plan



3.0 RELEVANT STANDARDS & GUIDANCE

3.1 SHDC SPG, LOCATION OF PREMISES FOR THE BOARDING AND BREEDING OF DOGS AND OTHER ANIMALS - NOISE ISSUES

This Supplementary Planning Guidance (SPG) issued in 1999 by South Holland District Council (SHDC) sets out a detailed assessment method for the noise impact from animal boarding and breeding premises.

The SHDC SPG states that it *'deals with the issue of noise impact from animal boarding and breeding premises and the locational matters that arise. Its purpose is to provide a standard publicised procedure for assessing such proposals...'*

The SHDC SPG includes a Technical Appendix, *'Method for the assessment of dog noise from boarding and breeding establishments'*, which is intended to provide supplementary planning guidance on the suitability of locations for dog boarding and breeding establishments with open air runs.

The SHDC SPG provides an assessment methodology for assessing the specific noise level of the source (i.e. noise from dogs barking), determined as an equivalent continuous A-weighted sound pressure level ($L_{Aeq,T}$), against the existing background noise level ($L_{A90,T}$) at noise sensitive locations.

The SHDC SPG Technical Appendix contains source noise data for dogs barking which has been extrapolated from measured data that *'is assumed to be representative of conditions existing at commercial kennels'* and explains *'the principles behind the various assumptions that have had to be made in order to establish a consistent approach to what is, by its very nature, a variable source of noise.'*

The SHDC SPG comments that noise levels at or below the background noise level are unlikely to give rise to complaints, and states that the objective of the SHDC SPG assessment criteria *'shall be that the specific noise level does not exceed the background noise level'*.

3.2 BS 4142:2014+A1:2019 METHODS FOR RATING AND ASSESSING INDUSTRIAL AND COMMERCIAL SOUND

British Standard BS 4142:2014+A1:2019 *'Methods for rating and assessing industrial and commercial sound'* (BS4142) provides a method for assessing noise from items such as building services plant and loading and unloading of goods at industrial and/or commercial premises, when compared to the existing background sound levels at the noise sensitive receptor.

The assessment procedure involves measuring or predicting the 'rating level' of the sound source and comparing it to the 'background noise level' at the location of the noise sensitive receptor. The rating level is the level of the specific sound under consideration plus any adjustment for the characteristic features of the sound such as tonality, impulsivity, and intermittency.

BS 4142 comments that *'the significance of sound of an industrial and/or commercial nature depends upon both the margin by which the rating level of the specific sound source exceeds the background sound level and the context in which the sound occurs'* and goes on to state that:

a) Typically, the greater this difference, the greater the magnitude of the impact.

b) A difference of around +10 dB or more is likely to be an indication of a significant adverse impact, depending on the context.

c) A difference of around +5 dB is likely to be an indication of an adverse impact, depending on the context.

d) The lower the rating level is relative to the measured background sound level, the less likely it is that the specific sound source will have an adverse impact or a significant adverse impact. Where the rating level does not exceed the background sound level, this is an indication of the specific sound source having a low impact, depending on the context.

BS4142 notes that adverse impacts include, but are not limited to, annoyance and sleep disturbance, and that not all adverse impacts will lead to complaints and not every complaint is proof of an adverse impact.

BS4142 comments that the standard is not intended to be applied to the rating and assessment of sound from:

- a) recreational activities, including all forms of motorsport;
- b) music and other entertainment;
- c) shooting grounds;
- d) construction and demolition;
- e) domestic animals;
- f) people;
- g) public address systems for speech; and
- h) other sources falling within the scopes of other standards or guidance.

3.3 BS8233:2014 ‘GUIDANCE ON SOUND INSULATION AND NOISE REDUCTION FOR BUILDINGS’

3.3.1 INTERNAL NOISE LEVELS WITHIN DWELLINGS

British Standard BS 8233:2014 ‘*Guidance on sound insulation and noise reduction for buildings*’ (BS8233) published in 2014 provides guidance on recommended internal ambient noise levels within dwellings.

BS8233 states that it is desirable that the internal ambient noise level does not exceed the guideline values in the table below.

Table 1: BS8233 desirable internal ambient noise limits for dwellings

| Activity | Location | 07:00 – 23:00 hrs | 23:00 – 07:00 hrs |
|----------------------------|------------------|-----------------------------|----------------------------|
| Resting | Living Room | 35 dB L _{Aeq,16hr} | - |
| Dining | Dining room/area | 40 dB L _{Aeq,16hr} | - |
| Sleeping (daytime resting) | Bedroom | 35 dB L _{Aeq,16hr} | 30 dB L _{Aeq,8hr} |

BS8233 comments that where development is considered necessary or desirable ‘...*the internal target levels may be relaxed by up to 5 dB and reasonable internal conditions still achieved.*’

3.3.2 EXTERNAL NOISE LEVELS IN AMENITY SPACES

With regard to external noise BS8233 states that *'for traditional external areas that are used for amenity space, such as gardens and patios, it is desirable that the external noise level does not exceed 50 dB $L_{Aeq,T}$, with an upper guideline value of 55 dB $L_{Aeq,T}$ which would be acceptable in noisier environments..'*

BS8233 recognises that the guideline values may not be achievable in all circumstances where development might be desirable and states that *'...In higher noise areas, such as city centres or urban areas adjoining the strategic transport network, a compromise between elevated noise levels and other factors, such as the convenience of living in these locations or making efficient use of land resources to ensure development needs can be met, might be warranted. In such a situation, development should be designed to achieve the lowest practicable levels in these external amenity spaces, but should not be prohibited'*.

3.4 ISO 9613-2:2024 'ENGINEERING METHOD FOR THE PREDICTION OF SOUND PRESSURE LEVELS OUTDOORS'

ISO 9613-2:2024 *'Acoustics - Attenuation of sound during propagation outdoors: Part 2 - Engineering method for the prediction of sound pressure levels outdoors'* (ISO 9613-2) specifies an engineering method for calculating the attenuation of sound during propagation outdoors in order to predict the levels of environmental noise at a distance from a variety of sources. The method predicts the equivalent continuous A-weighted sound pressure level (as described in ISO 1996-series) under meteorological conditions favourable to propagation from sources of known sound emission. These conditions are for downwind propagation or, equivalently, propagation under a well-developed moderate ground-based temperature inversion, such as commonly occurs in clear, calm nights.

The method predicts a long-term average A-weighted sound pressure level as specified in ISO 1996-1 and ISO 1996-2. The long-term average A-weighted sound pressure level encompasses levels for a wide variety of meteorological conditions. Specific terms are provided in the ISO 9613-2 calculation algorithms for the following physical effects:

- Geometrical divergence
- Atmospheric absorption
- Ground effect
- Reflection from surfaces
- Screening by obstacles

3.5 LPA CONSULTATION

Benchmark Acoustics has contacted Ribble Valley Borough Council (RVBC) requesting comments on the following proposed noise assessment methodology for the dog exercise paddock:

- assess the noise impact from the proposed dog exercise field based on the methodology outlined in the *"Location of Premises for the Boarding and Breeding of Dogs and other Animals – Noise Issues, Supplementary Planning Guidance"* issued by South Holland District Council (SHDC), 1999...whereby the objective shall be that "the specific noise level..." (of dogs barking) "... does not exceed the

background noise level”, as referenced in section 7 (Assessment Criteria) of the SHDC SPG document.

- measure the activity noise levels from the dog exercise field and report these measurements in the assessment
- model the site and noise propagation using 3D noise modelling software rather than adopting the basic distance attenuation and barrier screening corrections provided in the SHDC SPG document
- compare the predicted noise levels of dog barking activity at the residential NSRs with the BS8233 recommended internal and external noise levels for dwellings

In response, RVBC provided the following comments regarding the proposed noise assessment methodology:

‘I think the scope of the South Holland guidance should be acceptable. I’m caveating this by you’ll have to use the current versions of BS8233 and BS4142 as it quotes the old standards. You should use the methodology in the new BS4142 standard to achieve sound lower than LA90 background at the boundary of residential receptors, although out of the scope of this I think it would be precautionary to use the penalties in the standard as it includes intermittent noise such as a dog barking.’

3.6 PROPOSED ASSESSMENT CRITERIA

It is noted that RVBC Environmental Health suggest the precautionary inclusion of BS4142 rating penalties for the SHDC SPG assessment criteria.

The SHDC SPG assessment methodology was developed specifically to provide a consistent methodology for the assessment of dog barking noise, and whilst the SHDC SPG comments that it’s assessment methodology is based on BS4142:1997, which included the consideration of applying an acoustic feature correction to the specific noise level, the SHDC SPG assessment methodology and associated criteria do not include any additional BS4142 feature corrections for the baseline dog barking noise levels presented in the guidance.

Furthermore, it is noted that the current edition of BS4142 states that *‘the standard [BS4142] is not intended to be applied to the rating and assessment of sound from...domestic animals..’*

Based on the above, it is considered unnecessary to include any additional BS412 rating penalties to the proposed SHDC SPG assessment methodology and criteria for dog barking noise.

3.6.1 SHDC SPG ASSESSMENT

It is proposed to assess dog barking noise from the proposed dog exercise paddock (the ‘specific noise level’) using the SHDC SPG assessment criteria objective that the specific noise level (i.e. dog barking noise) $L_{Aeq,1hr}$ does not exceed the background noise level $L_{A90,T}$ at the identified residential noise sensitive receptors. Note that it is not proposed to apply any additional BS4142 rating penalties to the specific noise level.

The proposed noise assessment methodology will adopt the noise source data and assessment methodology outlined in the SHDC SPG and will use 3D computer noise modelling incorporating the ISO 9613-2 calculation methodology to predict the propagation of dog barking noise across the site.

As the ISO 9613-2 calculation methodology predicts worst-case noise levels assuming downwind propagation conditions for all source-receiver directions, it is considered unnecessary to add the additional prevailing wind penalty correction to account for noise sensitive locations in the 345-75 degree sector referenced in the SHDC SPG methodology.

3.6.2 BS8233:2014 ASSESSMENT

In addition to the SHDC SPG assessment methodology described above, the predicted dog barking noise levels at the residential NSRs will be assessed with reference to the BS8233:2014 recommend external noise levels in amenity spaces, and internal noise levels for daytime resting within dwellings.

4.0 NOISE SENSITIVE RECEPTORS

The following residential properties have been identified as the closest noise sensitive receptors (NSRs) to be considered for this assessment:

Figure 3: Locations of closest assessed NSRs and project site location highlighted in red



Image copyright Airbus / Google Earth

Table 2: Summary of the closest residential noise sensitive receptors considered for assessment

| NSR | Location | Comments |
|-------|---|---|
| NSR 1 | The Paddock at Shaw House Farm | The NSR is located on the farm. The external yard to the front of the property, approx 197 m from the closest Project site boundary has been used for the assessment location. The property has a garden area to the rear of the building, however it is expected that the garden area would be exposed to higher background noise levels (due to the closer proximity to road traffic noise from the A59), and would be less exposed to any dog barking noise due to the acoustic screening provided by the property. |
| NSR 2 | The Barn at Shaw House Farm | The NSR is located on the farm. The centre of the external yard to the front of the property, approx 164 m from the closest Project site boundary has been used for the assessment location. |
| NSR 3 | Farmhouse at Shaw House Farm | The NSR is located on the farm. The centre of the garden at the rear of the property has been used for the assessment location, approx 148 m from the closest Project site boundary. The property has an external yard to the front of the building, however it is expected that the yard would be exposed to higher background noise levels (due to the closer proximity to road traffic noise from the A59) and would be less exposed to any dog barking noise due to the acoustic screening provided by the property. |
| NSR 4 | Proposed Hotel, Eagle at Barrow, Clitheroe Road | The NSR is the location of the proposed hotel development in the grounds of the Eagle at Barrow, approx 253 m from the closest Project site boundary, set back approx 33 m from Clitheroe Rd. Note that the outcome of the assessment at this NSR is expected to be representative of, or a worst-case assessment for, the residential NSRs located on Clitheroe Rd immediately to the north of this NSRs as background noise levels are expected to be comparable (given the similar proximity to Clitheroe Rd and A59 road traffic noise sources), and noise levels from the dog exercise paddock will be reduced for NSRs located further away from the paddock than the assessed NSR due to the increased distance attenuation.. |
| NSR 5 | Meadcroft, Clitheroe Road | The NSR is located on Clitheroe Rd, approx 238 m from the closest Project site boundary. Note that the outcome of the assessment at this NSR is expected to be representative of, or a worst-case assessment for, the residential NSRs located on Clitheroe Rd immediately to the south of A59, as background noise levels are expected to be comparable (given the similar proximity to Clitheroe Rd and A59 road traffic noise sources), and noise levels from the dog exercise paddock will be reduced for NSRs located further away from the paddock than the assessed NSR due to the increased distance attenuation.. |

5.0 SOUND LEVEL MEASUREMENTS

A series of attended and unattended sound level surveys were undertaken to determine the prevailing background noise levels at locations representative of the NSRs and to measure activity noise from the dog exercise paddocks during the following dates and times:

- Thursday 13/11/25, 09:20 – 14:40 hrs
- Thursday 20/11/25, 09:40 – 11:40 hrs
- Wednesday 03/12/25, 09:30 – 10:30 hrs

Details of the sound level measurements are presented in the following sections.

5.1 PROJECT SITE DESCRIPTION

The Project site is a paddock located on a working farm set in a predominantly rural setting. The site is bordered by fields and a private access track, with farm/commercial buildings located directly to the southwest of the site.

The A59 carriageway is located approx 220m to the south of the site, Clitheroe Road approx 230m to the east, and a railway line approx 75 m to the west of the site.

Road traffic noise was generally the dominant source of noise around the site, with additional contributions from work activities associated with the farm, e.g. tractor / JCB movements around the farm, occasional operational activity from the businesses located in the nearby commercial units, e.g. loading/unloading of vehicles and vehicle movements, and occasional train pass-bys. A number of dogs associated with the farm and the on-site residential farm properties were noted to be housed in kennels on the farm and occasional barking from these dogs was audible during the site visits.

The Project site location and location of the closest assessed NSRs are shown in Figure 3, above.

5.2 EQUIPMENT / INSTRUMENTATION

The following equipment was used for the sound level measurements.

Table 3: Summary of noise survey measurement equipment

| Equipment | Model | Serial No. | Lab Calibration Date |
|-------------------|---------------------|--------------|----------------------|
| Sound Level Meter | NTi XL2-TA | A2A-10831-E0 | 16/09/2024 |
| Preamplifier | NTi MA220 | 5628 | 16/09/2024 |
| Microphone | NTi MC230 | 9033 | 16/09/2024 |
| Sound Level Meter | Rion NA-28 | 00170250 | 14/03/2025 |
| Preamplifier | Rion NH-23 | 80932 | 14/03/2025 |
| Microphone | Rion UC-59 | 01054 | 14/03/2025 |
| Calibrator | Larson Davis CAL200 | 13371 | 10/09/2025 |

5.3 WEATHER CONDITIONS

The following weather conditions were noted during the survey. The weather conditions were considered to be suitable for noise measurements across the survey periods.

Table 4: Summary of weather conditions during the noise surveys

| Date | Time | Weather conditions |
|--------------|-------------------|--|
| Thu 13/11/25 | 09:20 – 11:57 hrs | Cloud cover ranging between 0 - 50% Temperature 12°C - 14°C, Wind speeds 0 – 1.5 m/s |
| Thu 13/11/25 | 11:57 – 12:07 hrs | Period of light rainfall |
| Thu 13/11/25 | 12:50 – 14:40 hrs | Cloud cover ranging between 0 - 30% Temperature 11°C - 12°C, Wind speeds 0 – 1.0 m/s Noise survey ended at 14:40 hrs due to onset of rainfall at 14:40 hrs |
| Thu 20/11/25 | 09:40 – 11:40 hrs | Cloud cover ranging between 0 - 10% Temperature 5°C - 7°C, Wind speeds 0 – 0.5 m/s |
| Wed 03/12/25 | 09:30 – 10:30 hrs | Cloud cover ranging between 30 - 50% Temperature 4°C, Wind speeds 0 – 0.5 m/s |

5.4 METHODOLOGY

All measurements were undertaken by a Suitably Qualified Acoustician holding full membership of the Institute of Acoustics (MIOA).

Measurements were undertaken in accordance with the principles of BS 7445: 2003: ‘*Description and measurement of environmental noise*’ with the sound level meter microphone mounted at a height of approximately 1.4 m above local ground level, and at least 3.5 m from any reflecting surface other than ground.

The sound level meter was field calibrated prior to the start and after the end of each survey with no significant drift in sensitivity observed.

5.5 MEASUREMENT POSITIONS

Figure 4 and Figure 5 below illustrates the approximate location of the measurement positions. A description of the measurement positions and the associated noise climate is provided in Table 5 below.

Where possible, measurements were taken in the areas of external amenity for each NSR where people are likely to be affected by the specific noise level, however in some cases it was necessary to use an alternative location in close proximity to these areas and judged to be representative of the noise levels at the assessment location, where it was not possible to gain access to the external amenity areas, e.g. the garden of the Farm House, and the yard of The Barn at Shaw House Farm.

Figure 4: Approximate locations of noise measurement positions on land at Shaw House Farm

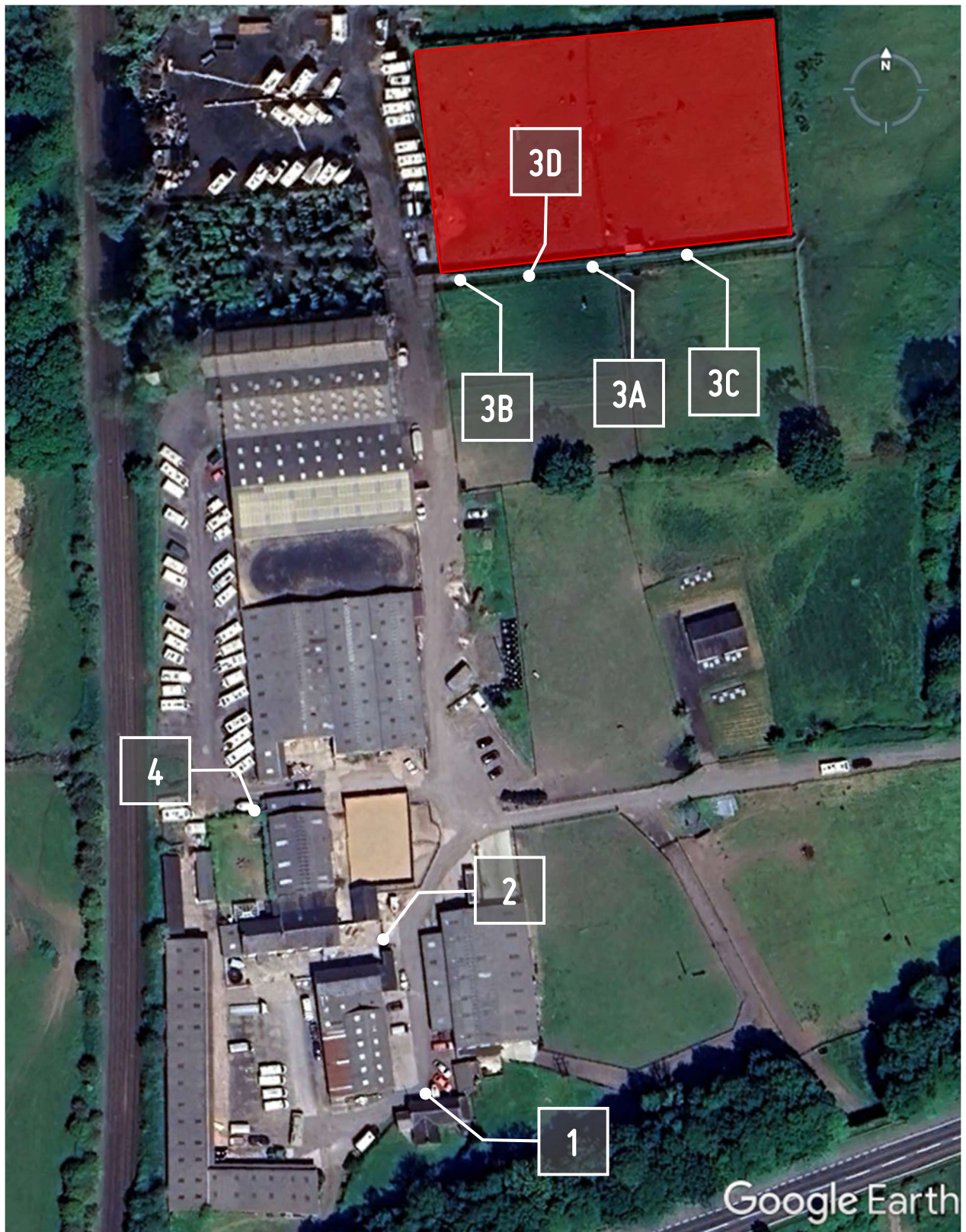


Image copyright Airbus / Google Earth

Figure 5: Approximate locations of offsite measurement positions at NSRs on Clitheroe Rd



Image copyright Airbus / Google Earth

Table 5: Description of noise survey measurement positions

| Pos | Description |
|-----|---|
| 1 | Located in the yard outside the front of The Paddock. Measurements undertaken to determine representative background noise levels at NSR1. Noise levels were controlled by road traffic noise from the A59 with additional contributions from local vehicle movements around the farm, farmyard dogs barking, and birdsong. |
| 2 | Located at the gated entrance to the yard outside the front of Shaw House Farm Barn. Measurements undertaken to determine representative background noise levels at NSR2. Partially unattended noise survey. Attended observations noted that noise levels were controlled by road traffic noise from the A59 with additional contributions from local vehicle movements around the farm, farmyard dogs barking, and birdsong. |
| 3A | Located on a farm track approx 2m from the southern boundary of the dog exercise paddock and approx 5m to the west of the central division to the paddock. Measurements undertaken to benchmark activity noise levels associated with the dog exercise paddock. Noise levels were controlled by occasional dog barking with contributions from road traffic noise from the A59, local vehicle movements around the farm, loading/unloading activities from the farm/commercial buildings to the south east of the paddock, and train pass-by. |
| 3B | Located on a farm track approx 2m from the southern boundary of the dog exercise paddock and 7m from the vehicle entrance to the paddock. Measurements undertaken to benchmark activity noise levels associated with the dog exercise paddock. Noise levels were controlled by occasional dog barking with contributions from road traffic noise from the A59, local vehicle movements around the farm, loading/unloading activities from the farm/commercial buildings to the south east of the paddock, and train pass-bys. |
| 3C | Located on a farm track approx 2m from the southern boundary of the dog exercise paddock approx 15m to the east of the central division to the paddock. Measurements undertaken to benchmark noise levels associated with the dog exercise paddock. Noise levels were controlled by occasional dog barking with contributions from road traffic noise from the A59, local vehicle movements around the farm, loading/unloading activities from the farm/commercial buildings to the south east of the paddock. |
| 3D | Located on a farm track approx 2m from the southern boundary of the dog exercise paddock and 15m from the vehicle entrance to the paddock. Measurements undertaken to benchmark activity noise levels associated with the dog exercise paddock. Noise levels were controlled by occasional dog barking with contributions from road traffic noise from the A59, local vehicle movements around the farm, loading/unloading activities from the farm/commercial buildings to the south east of the paddock. |
| 4 | Located on farmland at the northern boundary of the garden of Shaw House Farm. Measurements undertaken to determine representative background noise levels at NSR3. Partially unattended noise survey. Attended observations noted that noise sources included road traffic noise from the A59, vehicle movements around the farm, train pass-bys, farmyard dogs barking, and birdsong. |
| 5 | Located at the position of the closest elevation of the proposed Hotel at The Eagle at Barrow, approx 33m from Clitheroe Rd. Measurements undertaken to determine representative background noise levels at NSR 4. Noise levels were controlled by road traffic noise from Clitheroe Rd and the A59. |
| 6 | Located at the rear of Meadcroft residential property on Clitheroe Rd. Measurements undertaken to determine representative background noise levels at NSR 5. Noise levels were controlled by road traffic noise from the A59 and Clitheroe Rd. |

5.6 MEASURED NOISE LEVELS

A summary of the measured noise levels is provided in Table 6 and Table 7, below.

Table 6: Summary of measured noise levels at NSRs

| Pos | Date | Start Time | Period, T | L _{Aeq,T} dB | L _{AFmax,T} dB | L _{A90,T} dB |
|----------------------|----------|-----------------------------------|---------------------|--------------------------|----------------------------|--------------------------|
| 1 | 13/11/25 | 09:20 | 10 min | 55 | 69 | 51 |
| 1 | 13/11/25 | 09:30 | 10 min | 54 | 60 | 51 |
| 1 | 13/11/25 | 09:40 | 10 min | 55 | 70 | 50 |
| 1 | 13/11/25 | 09:50 | 10 min | 53 | 59 | 49 |
| 1 | 13/11/25 | 10:00 | 10 min | 53 | 58 | 49 |
| 1 | 13/11/25 | 10:10 | 10 min | 54 | 70 | 50 |
| 1 | 13/11/25 | 1-hour average¹ | | - | - | 50 |
| 2 ² | 13/11/25 | 09:30 | 60 min ³ | 52 | 78 | 48 |
| 2 ² | 13/11/25 | 10:30 | 60 min ³ | 52 | 74 | 48 |
| 2 ² | 13/11/25 | 11:30 | 60 min ³ | 53 | 84 | 48 ⁴ |
| 2 ² | 13/11/25 | 12:30 | 60 min ³ | 52 | 71 | 47 |
| 2 ² | 13/11/25 | 13:30 | 60 min ³ | 76 ⁵ | 97 ⁵ | 47 |
| 2² | 13/11/25 | 5-hour average¹ | | - | - | 47 |
| 4 | 20/11/25 | 09:40 | 10 min | 45 | 61 | 43 |
| 4 | 20/11/25 | 09:50 | 10 min | 50 | 64 | 45 |
| 4 | 20/11/25 | 10:00 | 10 min | 48 | 60 | 42 |
| 4 | 20/11/25 | 10:10 | 10 min | 47 | 62 | 43 |
| 4 | 20/11/25 | 10:20 | 10 min | 55 | 77 | 42 |
| 4 | 20/11/25 | 10:30 | 10 min | 43 | 56 | 40 |
| 4 | 20/11/25 | 10:40 | 10 min | 63 | 76 | 45 |
| 4 | 20/11/25 | 10:50 | 10 min | 47 | 58 | 42 |
| 4 | 20/11/25 | 11:00 | 10 min | 56 | 79 | 42 |
| 4 | 20/11/25 | 11:10 | 10 min | 44 | 56 | 41 |
| 4 | 20/11/25 | 11:20 | 10 min | 53 | 76 | 40 |
| 4 | 20/11/25 | 11:30 | 10 min | 47 | 62 | 40 |
| 4 | 20/11/25 | 2-hour average¹ | | - | - | 42 |
| 5 | 20/11/25 | 09:50 | 10 min | 54 | 77 | 47 |
| 5 | 20/11/25 | 10:00 | 10 min | 54 | 65 | 46 |
| 5 | 20/11/25 | 10:10 | 10 min | 54 | 63 | 48 |
| 5 | 20/11/25 | 10:20 | 10 min | 54 | 64 | 48 |
| 5 | 20/11/25 | 10:30 | 10 min | 53 | 62 | 46 |

| Pos | Date | Start Time | Period, T | L _{Aeq,T} dB | L _{AFmax,T} dB | L _{A90,T} dB |
|--|----------|-----------------------------------|--------------|--------------------------|----------------------------|--------------------------|
| 5 | 20/11/25 | 10:40 | 10 min | 52 | 62 | 46 |
| 5 | 20/11/25 | 1-hour average¹ | | - | - | 47 |
| 6 | 03/12/25 | 09:30 | 10 min | 58 | 69 | 54 |
| 6 | 03/12/25 | 09:40 | 10 min | 58 | 64 | 54 |
| 6 | 03/12/25 | 09:50 | 10 min | 57 | 65 | 52 |
| 6 | 03/12/25 | 10:00 | 10 min | 57 | 67 | 53 |
| 6 | 03/12/25 | 10:10 | 10 min | 57 | 66 | 54 |
| 6 | 03/12/25 | 10:20 | 10 min | 57 | 63 | 54 |
| 6 | 03/12/25 | 1-hour average¹ | | - | - | 54 |
| 1. Average of 10-minute L _{A90,T} measurements 2. Measurements unattended from 10:30 3. Measurements summarised as 60-minute periods averaged/calculated from 10-minute measurements 4. Light rain occurred for approx 10 minutes during measurement period 5. Cause of unusually high L _{Aeq} and L _{Amax} levels is unknown as measurement was unattended | | | | | | |

Table 7: Summary of measured dog exercise paddock activity noise levels

| Pos | Date | Start Time | Period, T | L _{Aeq,T} dB | L _{AFmax,T} dB | L _{A90,T} dB |
|-----|----------|------------|--------------|--------------------------|----------------------------|--------------------------|
| 3A | 13/11/25 | 10:30 | 14 min | 54 | 79 | 50 |
| 3A | 13/11/25 | 11:44 | 12 min | 54 | 71 | 50 |
| 3B | 13/11/25 | 10:44 | 35 min | 62 | 87 | 46 |
| 3C | 13/11/25 | 11:19 | 11 min | 55 | 78 | 49 |
| 3D | 13/11/25 | 11:30 | 10 min | 64 | 93 | 48 |
| 3B | 13/11/25 | 12:50 | 60 min | 65 | 89 | 48 |
| 3B | 13/11/25 | 13:50 | 57 min | 65 | 92 | 48 |

5.7 BACKGROUND NOISE LEVELS

For the measurement of $L_{A90,T}$ background noise levels, the SHDC SPG states that:

'Measurements to be made at a position close to a noise sensitive receiver location in the open air and at least 3.5m from any reflecting surface other than the ground...'

Measurement time intervals shall be sufficient to obtain a representative value of the daytime (07:00 – 19:00 hours) background noise level. The measurement time interval shall be at least 30 minutes comprising 10-minute periods of which the arithmetic average shall be taken as representative...'

For multiple locations where it is not practical to measure the background noise level at all receiver locations it will be acceptable to measure the background noise level at some other position (P) where it is presumed to be equivalent and report the reasons for presuming it to be equivalent...'

Where possible, background $L_{A90,T}$ noise level measurements were undertaken after the morning rush-hour traffic period (i.e. after 09:00) and prior to the start of the operating hours of the dog exercise paddock (i.e. before 10:30) to minimise the potential for the specific noise source affecting the measurements. Based on subsequent site observations, it is considered that the background $L_{A90,T}$ noise measurements taken when the dog exercise paddock was operational (i.e. after 10:30) were not affected by the specific noise source.

The longer-term background noise levels measured at MP2 vary by less than 1 dB between 09:30 – 14:30 hrs indicating that the traffic noise from the A59, which was noted to be the dominant noise source controlling local background noise levels around the site, appears to be relatively constant throughout the proposed operating hours of the dog exercise paddock.

Table 8 summarises the average measured $L_{A90,T}$ background noise levels that have been used for the SHDC SPG assessment of dog barking noise at the NSRs.

Table 8: Background noise levels assumed for noise assessment at NSRs

| NSR | Location | $L_{A90,T}$ (dB) |
|-------|---|------------------|
| NSR 1 | The Paddock at Shaw House Farm | 50 |
| NSR 2 | The Barn at Shaw House Farm | 47 |
| NSR 3 | Farmhouse at Shaw House Farm | 42 |
| NSR 4 | Proposed Hotel, Eagle at Barrow, Clitheroe Road | 47 |
| NSR 5 | Meadcroft, Clitheroe Road | 54 |

6.0 3D NOISE MODELLING

3D noise modelling software (iNoise v2026) utilising the ISO 9613-2:2024 'Acoustics - Attenuation of sound during propagation outdoors, Part 2: Engineering method for the prediction of sound pressure levels outdoors' (ISO 9613-2) calculation methodology has been used to model the proposed site layout and propagation of dog barking noise associated with the dog exercise paddock.

6.1 SOURCE NOISE LEVELS

The following $L_{eq,1\text{ hour}}$ baseline source noise levels from the SHDC SPG have been incorporated into the 3D noise model to represent dog barking noise from the dog exercise paddock:

Table 9: SHDC baseline source L_{eq} noise levels at 10m and calculated equivalent L_w used in 3D noise model (corrected to linear octave band levels)

| Octave band centre frequency, Hz | 125 | 250 | 500 | 1k | 2k | A |
|--|-----|-----|-----|----|----|------------|
| 1 dog barking, $L_{eq,1\text{ hour}}$ at 10 m, dB | 42 | 47 | 64 | 63 | 54 | 66 |
| 1 dog barking, equivalent L_w , dB ¹ | 73 | 78 | 95 | 94 | 85 | 97 |
| 3 dogs barking, equivalent L_w , dB ¹ | 78 | 83 | 100 | 99 | 90 | 101 |

1. Equivalent sound power level, L_w , calculated from L_{eq} at 10 m, assuming hemispherical propagation measured in the open over porous (i.e. non-reflective) ground, resulting in a worst-case calculation of the sound power level

The SHDC SPG states that '*the baseline source data is representative of 1 medium sized dog in the open air barking at a distance of 10 minutes for a cumulative period of 10 minutes in any hourly period*'

For dog boarding classification, the SHDC SPG states that:

For noise assessment purposes the number of dogs barking on site shall be assumed to be as follows: Total number of dogs x 0.6 (for calculation purposes any decimal place shall represent 1 dog).

Based on a proposed total of 30 dogs using the dog exercise paddock, 18 dogs barking in the paddock has been modelled for the noise assessment.

6.2 MODELLING ASSUMPTIONS

The following modelling assumptions have been made for the 3D noise model:

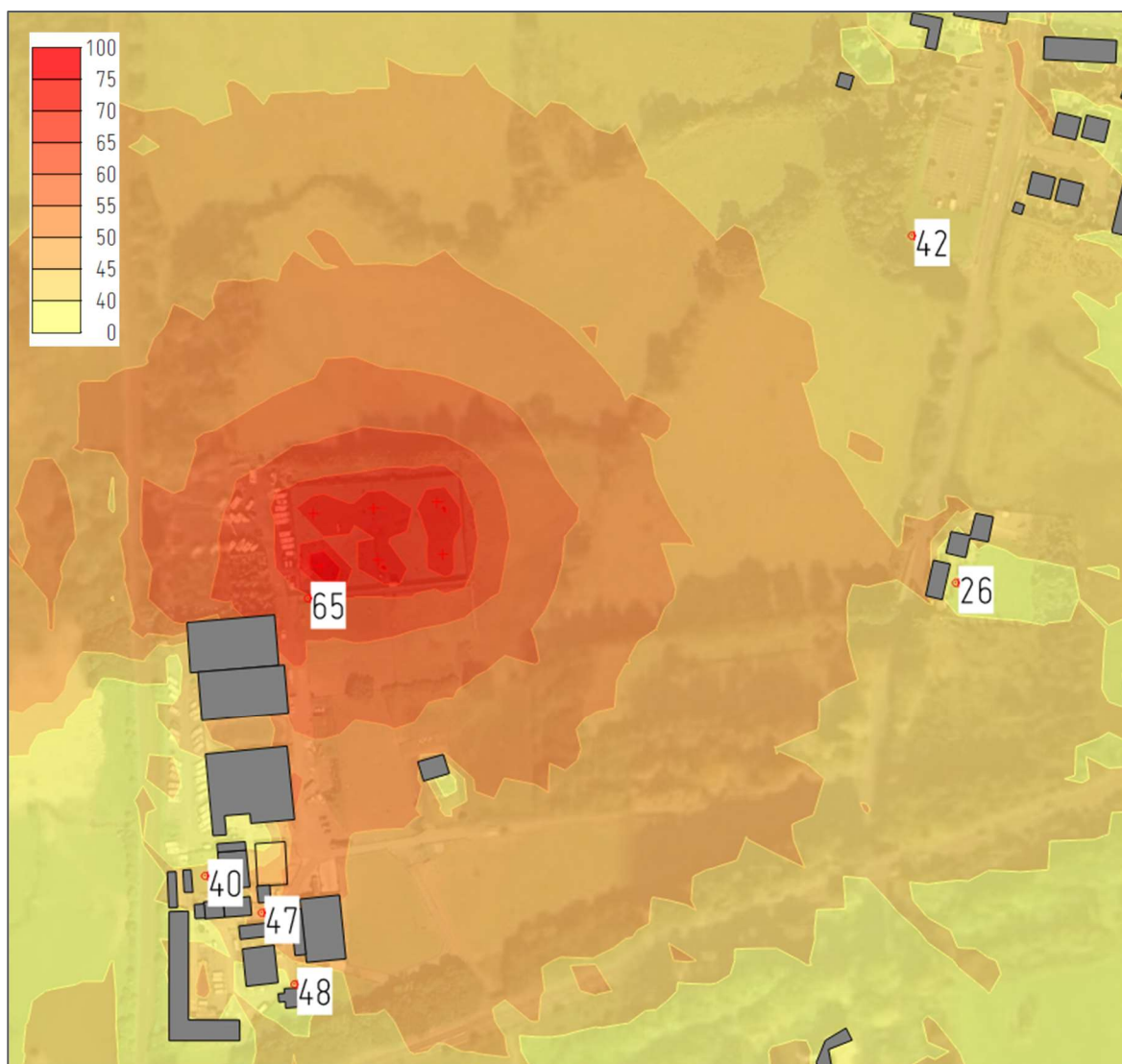
- Calculation methodology in accordance with ISO 9613-2:2024
- Site layout and location of NSRs based on georeferenced aerial satellite images
- Topographical data for ground heights sourced from DEFRA 1 m resolution LIDAR survey data
- Building heights approximated from DEFRA 1 m resolution LIDAR survey data
- Ground factor = 1 for ground covered by grass, trees or other vegetation, e.g. fields, gardens, etc
- Ground factor = 0 for hard ground, e.g. roads, paving, tamped ground, hard standing, etc
- Reflection coefficient = 0.8 for buildings and barriers

- NSR heights are 1.5m above local ground level representing ground floor windows and external amenity areas
- The 18 barking dogs are modelled as 6no. point sources representing 3 dogs barking per source at a height of 0.6 m, distributed evenly across the paddock
- Each of the 6 point sources has a sound power level, $L_w = 101.4$ dBA representing 3 dogs barking for 10 minutes per hour, based on the SHDC SPG source noise data

6.3 MODELLING RESULTS

A screen shot of the resulting noise map from the 3D noise model is presented below. A comparison of the predicted and measured noise levels at measurement positions 3B, where both predicted and measured $L_{Aeq,1hr}$ values = 65 dB (refer to Table 7 in section 5.6 above) indicate that the SHDC SPG baseline source noise level data is expected to be a realistic modelling assumption. An assessment of the noise modelling predictions is provided in section 7.0 below.

Figure 6: 3D noise modelling results for dog barking noise at 1.5m above ground level, $L_{Aeq,T}$ dB



7.0 NOISE ASSESSMENT

7.1 TRANSPORT NOISE

A total of 8 van movements on the private access track (4 arriving and 4 departing the site) are proposed each day during the week, with a reduced total of 2 van movements (1 arriving and 1 departing) proposed on Saturdays.

Given the limited number of van movements per day, the distances to the NSRs, and the existing use of the private access track by farm vehicles and other commercial and private vehicles accessing the farm buildings, commercial units and residential properties on the farm land, transport noise associated with the daily operations of the dog exercise paddock is not expected have any significant noise impact and has therefore been scoped out of this assessment.

7.2 SHDC SPG ASSESSMENT

The results of the dog barking noise modelling predictions and the relevant background noise levels at each NSR are presented with respect to the SHDC SPG assessment criteria in the table below.

Table 10: Summary of predicted dog exercise paddock activity noise levels ($L_{Aeq,1hr}$) at NSRs

| NSR | Location | Background $L_{A90,T}$, dB | Predicted $L_{Aeq,1hr}$, dB | Difference dB |
|-------|--|--------------------------------|---------------------------------|------------------|
| NSR 1 | The Paddock at Shaw House Farm (front) | 50 | 48 | -2 |
| NSR 2 | The Barn at Shaw House Farm (yard) | 47 | 47 | 0 |
| NSR 3 | Farmhouse at Shaw House Farm (garden) | 42 | 41 | -1 |
| NSR 4 | Proposed Eagle at Barrow Hotel, Clitheroe Rd | 47 | 42 | -5 |
| NSR 5 | Meadcroft, Clitheroe Rd (rear) | 54 | 26 | -28 |

As noted from the table, the predicted $L_{Aeq,1hr}$ noise levels from dog exercise paddock (the specific noise levels) do not exceed the $L_{A90,T}$ background noise levels at the NSRs.

Dog barking noise from the proposed dog exercise paddock is therefore expected to achieve the proposed SHDC SPG assessment criteria that the specific noise level (i.e. dog barking noise) $L_{Aeq,1hr}$ does not exceed the background noise level $L_{A90,T}$ at the identified residential noise sensitive receptors .

7.3 EXTERNAL NOISE LEVELS IN AMENITY SPACES

Table 11 below presents a summary of the predicted noise levels in the NSR external amenity spaces from dog barking associated with the dog exercise paddock.

Table 11: Predicted dog exercise paddock noise levels in NSR external amenity spaces

| NSR | Location | BS8233 Limit, L _{Aeq,16hr} , dB | Predicted L _{Aeq,1hr} , dB | Difference dB |
|-------|--|---|--|------------------|
| NSR 1 | The Paddock at Shaw House Farm (front) | 50 | 48 | -2 |
| NSR 1 | The Paddock at Shaw House Farm (rear) | 50 | 33 | -17 |
| NSR 2 | The Barn at Shaw House Farm (yard) | 50 | 47 | -3 |
| NSR 3 | Farmhouse at Shaw House Farm (garden) | 50 | 41 | -9 |
| NSR 4 | Proposed Eagle at Barrow Hotel, Clitheroe Rd | 50 | 42 | -8 |
| NSR 5 | Meadcroft, Clitheroe Rd (rear) | 50 | 26 | -24 |

As noted in the table, the highest predicted L_{Aeq,1hr} noise level from dog barking associated with the dog exercise paddock in any NSR external amenity area is L_{Aeq,1hr} 48 dB, which achieves the BS8233 recommendation that ‘...for traditional external areas that are used for amenity space, such as gardens and patios, it is desirable that the external noise level does not exceed 50 dB L_{Aeq,T}, with an upper guideline value of 55 dB L_{Aeq,T} which would be acceptable in noisier environments.’

Dog barking noise from the proposed dog exercise paddock is therefore expected to achieve the BS8233 recommended external noise limits in external amenity spaces.

7.4 INTERNAL NOISE LEVELS IN DWELLINGS

Table 12 below presents a summary of the predicted worst-case noise levels within each NSR dwelling from dog barking associated with the dog exercise paddock, assuming a 15 dB reduction from a facade incorporating a partially open window¹.

Table 12: Predicted dog exercise paddock noise levels within dwellings assuming partially open windows

| NSR | Location | BS8233 Limit, L _{Aeq,16hr} dB | Predicted L _{Aeq,1hr} dB | Difference dB |
|-------|---------------------------------|--|---|------------------|
| NSR 1 | The Paddock, Shaw House Farm | 35 | 33 | -2 |
| NSR 2 | The Barn at Shaw House Farm | 35 | 31 | -4 |
| NSR 3 | Farmhouse at Shaw House Farm | 35 | 27 | -8 |
| NSR 4 | Proposed Hotel, Eagle at Barrow | 35 | 27 | -8 |
| NSR 5 | Meadcroft, Clitheroe Road | 35 | 29 | -6 |

¹ BS8233:2014 notes that ‘If partially open windows were relied upon for background ventilation, the insulation would be reduced to approximately 15 dB’

As noted in the table, the worst-case dog barking noise associated with dog exercise paddock is predicted to be below the BS8233 recommended internal ambient noise limit of L_{Aeq} 35 dB for daytime resting within all residential NSRs.

Dog barking noise from the proposed dog exercise paddock is therefore expected to achieve the BS8233 recommended internal noise limits for daytime resting within dwellings.

7.5 CONCLUSION

The results of the noise assessment demonstrate that:

- Dog barking noise from the proposed dog exercise paddock is expected to achieve the proposed SHDC SPG assessment criteria that the specific noise level (i.e. dog barking noise) $L_{Aeq,1hr}$ does not exceed the background noise level $L_{A90,T}$ at the identified residential noise sensitive receptors.
- Dog barking noise from the proposed dog exercise paddock is expected to achieve the BS8233 recommended external noise limits in external amenity spaces at the assessed noise sensitive receptors.
- Dog barking noise from the proposed dog exercise paddock is expected to achieve the BS8233 recommended internal noise limits for daytime resting within dwellings at the assessed noise sensitive receptors.

Based on the above, it is considered that dog barking noise from the proposed dog exercise paddock would have a low impact on residential noise sensitive receptors, and noise should not be a determining factor in granting planning consent for the proposed development.

8.0 APPENDIX I: GLOSSARY OF TERMS

Background sound level, $L_{A90,T}$

The A-weighted sound pressure level that is exceeded by the residual sound at the assessment location for 90% of a given time interval

Equivalent continuous A-weighted sound pressure level, $L_{Aeq,T}$

The value of the A-weighted sound pressure level in decibels of continuous steady sound that, within a specified time interval, T , has the same mean-squared pressure as a sound that varies with time

Rating level, $L_{Ar,Tr}$

The rating level is the specific sound level plus any adjustment for the characteristic features of the sound

Reference time interval, T_r

The specified interval over which the specific sound level is determined. This is 1 hr during the day from 07:00 hrs to 23:00 hrs, and a shorter period of 15 min at night from 23:00 hrs to 07:00 hrs

Specific sound level, L_s

The equivalent continuous A-weighted sound pressure level produced by the specific sound source at the assessment location over a given reference time interval, T_r

BENCHMARK

ACOUSTICS